Protecting Water Quality

A primary goal of the shoreland management program is to ensure clean water is available to be enjoyed for generations to come. In order to achieve that goal, minimum shoreland development standards were set in place to limit the amount of stormwater and pollutants reaching Wisconsin's lakes and rivers.

Current standards are intended to protect a 35-foot deep corridor of natural vegetation along the water's edge of lakes and rivers. This corridor provides an area to slow and soak up water as it runs off of roads, driveways, and roofs, and across lawns. Water flowing over these surfaces picks up dirt, lawn fertilizers, pesticides, herbicides, toxic heavy metals, pet waste and other pollutants[1] that do not belong in lakes and rivers.

A corridor of natural shoreland vegetation traps and filters sediment and debris from runoff. Depending on the size (length and depth) and complexity of the shoreland, 50 to100% of the solid particles can settle out as plants slow sediment-laden runoff.[2] When natural shorelands are replaced with lawn and houses, this important filtering system is lost, allowing polluted runoff to flow directly into the lake or stream. In general, deeper shorelands are more effective than shallow shorelands, and trees, shrubs, and grasses are more effective than just grass. Most studies recommend shoreland buffers be at least 35 to 100 feet deep to help protect water quality, fisheries and wildlife habitat.[2, 3] In certain cases, such as on steeply sloping sites, buffers greater than 100 feet may be required to slow and infiltrate runoff. Buffers less than 35 feet deep have been generally found to be inadequate to provide long-term water quality protection in most circumstances, and are not likely to provide more than very minimal habitat for most riparian wildlife.[2]

Sources

[1]Lehner, P., G.P. Aponte Clark, D.M. Cameron, and A.G. Frank. 1999. *Stormwater Strategies: Community Responses to Runoff Pollution*. Natural Resources Defense Council. New York, NY. http://www.nrdc.org/water/pollution/storm/stoinx.asp

[2]Wegner, S. 1999. *A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation*. Office of Public Service and Outreach, Institute of Ecology, University of Georgia. Athens, GA. http://greer.ecology.uga.edu/buffer_litreview.pdf

[3]Fischer, R.A., and J.C. Fischenich. 2000. "Design Recommendations for Riparian Corridors and Vegetated Buffer Strips." *EMRRP Technical Notes Collection* (ERDC TN-EMRRP-SR-24), U.S. Army Engineer Research and Development Center. Vicksburg, MS. www.wes.army.mil/el/emrrp/pdf/sr24.pdf